

REMARKS

This responds to the Final Office Action mailed on July 11, 2008. Claims 16 and 21 are amended, no claims are canceled, and no claims are added. As a result, claims 9-10, 12, 15-16, 21-28, 41-42, 44, and 46-62 are now pending in this application.

Response to §102 Rejections

Claims 9-10, 12, 15, 56-58, and 60 were rejected under 35 U.S.C. § 102(e) for anticipation by Jones (U.S. Patent No. 6,118,878). In response, applicant submits respectfully that one of skill would not regard Jones as identically meeting each and every requirement of these claims.

For example, claims 9, 10, and 12 require "means for sensing acoustic energy based on user movement" and "means, responsive to a perceived absence of the acoustic energy, for switching the apparatus from the on state to the off or standby state.

In contrast, Jones reports 1) sensing pressure of an earcup against a user's head, 2) sensing a noise level outside the earcup, 3) sensing presence of an audible drone or squeal within the earpiece, or 4) sensing changes in a circuit-generated subsonic signal introduced via a speaker into the earcup. To confirm, please see, for example, column 12, lines 33-45; column 13, lines 50-67; column 15, lines 12-13; column 16, lines 27-45; column 19, lines 18-27; column 20, lines 12-17; and column 5, lines 7-67.

None of these reports provides anything that one of skill would identically equate with the required "means for sensing acoustic energy based on user movement" and "means, responsive to a perceived absence of the acoustic energy [based on user movement], for switching the apparatus from the on state to the off or standby state.

The Actions points to Jones col. 16, lines 41-45 (and to col. 17, lines 13-15) as meeting the first of these two requirements, stating specifically that this passage "reads on this limitation because one of ordinary skill in the art would know that the movement of the user's head would effect (sic) the pressure between the earpiece and the user's head. A clear case of this is the removal of the headphones, the pressure between the user head and earphones change with the headphones on or off. This pressure as disclosed by Jones affects the acoustic signal which is

used to determine the operating state of the headphones.” The Action then goes on to state “[t]herefore Jones reads on applicant’s claim 9.” However, with this last statement the Action goes beyond the teachings of Jones, effectively ignoring the additional requirement of “means, responsive to a perceived absence of the acoustic energy, for switching the apparatus from the on state to off or standby state.

In regard to the Jones’ arguable auto-off functionality, one of skill would recognize that the output of level detector 1069 (Fig. 10) detects the level of a subsonic signal produced by subsonic signal generator 22 and then picked up by a separate microphone 28. Figure 10 shows that the filtered out put of microphone 28 feeds level detecting circuit 1069, which ultimately indicates when the pressure of earpiece 1 against the user’s head fall below a threshold.” (Col. 16, lines 7-8; also co. 16. lines 26-45.) Col. 17, lines 13-15 specifically indicates that “the output of level detecting circuit 1069 may vary the frequency response of the cancellation system according to the pressure exerted on earpiece 1. Similarly, the output of the level detector 1069 may be used to determine when headset 100 has been removed from the user’s head.

However, one of skill would appreciate that in either case (case of varying frequency response or case of turning removal of the headset), the output of level detecting circuit 1069 is indicative of the pressure level within the earpiece, and moreover that pressure level is based on the level of the subsonic signal injected into the earpiece by signal generator 22. The perceived level of this generated subsonic signal provides the basis of any arguable capacity Jones’ has to automatically turn off its headset. In other words, Jones responds to perceived level of an injected subsonic signal, not to a perceived absence of acoustic energy based on user movement as claims 9, 10, and 12 require. (In regard to claim 21, the Examiner concedes in the Action that “Jones does not disclose a timer for determining whether the acoustic energy is absent for at least a predetermined amount of time. However, in connection with claims 9, 10, and 12 the Examiner does not point to any circuitry or other structure in Jones that is responsive to a perceived absence of the acoustic energy based on user movement.)

Accordingly, applicant requests respectfully that the Examiner reconsider and withdraw the rejection of claims 9, 10, and 12. Moreover, applicant requests further that if the Examiner continues to read as Jones as expressly teaching the required means responsive to a perceived

absence of user-movement-based acoustic energy, that he initiate a telephonic interview with its counsel in this matter.

Claim 15 also distinguishes from Jones via its requirement of “circuitry for sensing a condition based on user jaw movement or blood movements with a user’s head” and “circuitry for changing the operating state of the headset from an on state to an off state in response to a perceived absence of the condition.” As noted, Jones is responsive to perceived pressure level based on an injected subsonic signal, not absence of a condition based on user movement. Indeed, a computer search of Jones’ text reveals it is completely devoid of the terms “jaw” and “blood.”

In the Action, the Examiner states that “applicant does not disclose what condition is being sensed by user’s jaw movement or blood movement. Placing headphones on or moving the head involves a user’s blood movement and would result in a change in pressure between the earpiece and user’s head. Therefore Jones reads on this limitation.” Applicant notes that even if the examiner is correct that such movement would result in a change in pressure, there’s no clear teaching that the circuitry in Jones is sensitive enough to perceive these levels of pressure changes, particularly when there’s no teachings in Jones to respond to such changes. Moreover, since Jones teaches the pressure changes as a means of controlling the frequency response of its cancellation circuitry, it’s not at all apparent that responding to such changes would even be desirable. Furthermore, claim 15 requires “circuitry for changing the operating state of the headset from an on state to an off state in response to a perceived absence of the condition.” So, even if Jones arguable teaches sensing of a condition based on user jaw movements; it doesn’t teach changing the operating state based on a perceived absence of the condition.

Accordingly, applicant requests respectfully that the Examiner reconsider and withdraw the rejection of claim 15.

Claims 56-58 and 60 also distinguish from Jones. Specifically, these claims require “automatically determining whether acoustic signals produced by a user of the ANR circuitry are present within a cavity associated with the circuitry” and “automatically turning off the ANR circuitry in response to determining that the acoustic signals produced by the user are no longer

present." In contrast, Jones teaches nothing about detecting or responding to acoustic signals produced by a user. Instead, Jones uses a level detector to perceive pressure based on an injected subsonic signal. Thus, in Jones the user generated acoustic energy is not of concern. In other words, one of skill would recognize that Jones operates independently of any acoustic signals produced by the user.

Accordingly, applicant requests respectfully that the Examiner reconsider and withdraw the §102 rejection of claims 56-58 and 60.

Response to §103 Rejections

Claims 16, 21-28, 47-48, 50-55, 59, and 61-62 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Jones in view of Lucey (U.S. Patent No. 5,396,551).

In response, applicant respectfully submits that claim 16 stems from claim 15, which distinguishes from Jones as noted. The proposed addition of Lucey, even if permissible, does not overcome Jones' shortcomings. Accordingly, applicant requests respectfully that the Examiner reconsider and withdraw the rejection of claim 16.

Regarding claims 21-23, applicant respectfully requests reconsideration and withdrawal of the rejection based on Jones and Lucey. Specifically, the Examiner concedes that "Jones does not disclose a timer for determining whether the acoustic energy is absent for at least a predetermined amount of time," but asserts that Lucey provides such circuitry and that one of skill would be motivated to included Lucey's timer circuit "in order to conserve power more efficiently." Applicant submits that one of skill would not recognize that Lucey's timer circuitry would make Jones more efficient. Indeed, if Jones is in fact operable in response to a removal of the headset from a user's head, there's no need for Lucey's timer circuitry. Delaying turn off after removal on its face would arguable actually waste energy. There's no evidence in the record that Jones suffers from any inefficiency. Moreover, Lucey's timer is responsive to a absence of an input electrical signal at the headset amplifier, not absence of acoustic energy produced by user movement. As such, even if an adequate motivation for combination were submitted, the resulting combination would not meet all the requirements of claims 21-23.

Claims 24-28 also distinguish from the proposed combination of Jones and Lucey. The Examiner asserts that Jones teaches at col. 16, lines 41-45 “determining whether acoustic energy produced by the user has been sensed by the audio transducer.” However, the cited passage states

40 earpiece 1. However, the subsonic acoustic signal, generated
within earpiece 1, is detected by microphone 28. The level
of the subsonic acoustic signal detected by microphone 28 is
dependent upon the acoustic properties of the earpiece 1,
which are affected by the pressure between earpiece 1 and
45 the user's head.

However, it's not clear that one of ordinary skill without hindsight knowledge of the invention would regard this passage as teaching determining whether to user produced acoustic energy has been sensed. Indeed, the signal Jones is sensing in the passage is based on the subsonic acoustic signal detected by microphone, which is itself generated by a subsonic signal generator. At best there's a possibility that user movement may introduce pressure changes, but there's no express teaching that the circuitry is sensitive enough to perceive such pressure changes or to make any determination based on such perception. Indeed, this is all conjecture, given that there is no express teachings in Jones on the issue. Moreover, given that Jones' focus is using this circuitry to control frequency response (transfer function) of its ANR circuitry, such a sensitivity to user movement seems highly undesirable. Also, there's no indication that Lucey's timer would operate effectively in the context of Jones to conserve power more efficiently. On the contrary, any turn-off circuitry in Jones appears to be triggered by pressures changes stemming from removal of the headset. In which case, delaying turn-off may actually waste power. Thus, the proposed combination seems dubious at best

Accordingly, applicant requests respectfully that the Examiner reconsider and withdraw the rejection of claims 24-28 based on Jones and Lucey.

Claims 41-42, 44, and 46 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Jones in view of Cannelli. (U.S. Patent No. 5,072,415; hereinafter “Cannelli”).

The Examiner concedes that Jones lacks a programmable timer, and argues that one of skill would be motivated to include Cannelli’s programmable timer in Jones to conserve power more efficiently. However, there’s no disclosure that Jones suffers from any efficiency. And, given that Jones reported turn-off circuitry is triggered on pressure changes from removal of the headset from a user’s head, any delay in turning off would arguably waste power rather than conserve power. Furthermore, Cannelli’s timer is used in relation to controlling a measurement interval, not for determining when to deactivate ANR circuitry or any other headset circuitry. Thus, the proposed combination with Cannelli does not appear to be a function of teachings in the art, but rather impermissible hindsight reconstruction of the claimed invention.

Accordingly, applicant requests respectfully that the Examiner reconsider and withdraw the rejections of claims 41-42, 44, and 46.

Regarding claim 47, applicant also request reconsideration and withdraw of the rejection based on Jones and Lucey. Claim 47, among other things, requires “a digital timer responsive to the detector output to start a timing period and responsive to completion of the timing period to produce a control signal; and a switch responsive to the control signal to switch ANR circuitry from an active operating state to an inactive operating state.” The Examiner concedes that Jones lacks the digital timer and that it would be obvious to incorporate a digital version of Lucey’s timer in Jones to conserve power more efficiently. Yet, there’s no teaching in the art that Jones is inefficient and would benefit from Lucey’s timer. Moreover, as noted, there’s good reason to view introduction of a timer into Jones as actually wasting power.

Claim 49 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Jones in view of Lucey in further view of Cannelli in further view of Filliman (U.S. Patent No. 4,045,748) in further view of Cabot (U.S. Patent No. 5,089,981). Claim 49 stems from claim 47, and distinguishes at least the same reasons as claim 47.

Accordingly, applicant requests withdrawal of the rejection of claims 47-50.

Regarding claims 51-55, applicant also requests reconsideration and withdrawal of the rejections based on Jones and Lucey. Specifically, the Examiner concedes that Jones lacks the requisite timer means, but argues that one of skill would include Lucey's timer to conserve power more efficiently. However, as noted previously, there's no teaching that Jones suffers an inefficiency that would be cured by Lucey's timer. Moreover, there's reason to believe that such a timer would actually reduce Jones' efficiency.

Claim 54 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Jones in view of Lucey in further view of Cabot.

Claim 54 stems ultimately from claim 51, and is believed to be allowable for at least the same reasons as claim 51. Accordingly, applicant request respectfully that the Examiner reconsider and withdraw the rejection of claim 54.

Regarding claims 61 and 62, applicant submits respectfully that the proposed combination of Lucey and Jones is impermissible, since the speculated motivation is insufficient. As noted previously, there's no teaching that Jones suffers an inefficiency that would be cured by Lucey's timer. Moreover, there's reason to believe that such a timer would actually reduce Jones' efficiency.

Accordingly, applicant request respectfully that the Examiner reconsider and withdraw the rejection of claim 54.

Reservation of Rights

In the interest of clarity and brevity, applicant may not have equally addressed every assertion made in the Office Action; however, this does not constitute any admission or acquiescence. Applicant reserves all rights not exercised in connection with this response, such as the right to challenge or rebut any tacit or explicit characterization of any reference or of any of the present claims, the right to challenge or rebut any asserted factual or legal basis of any of the rejections, the right to swear behind any cited reference such as provided under 37 C.F.R. § 1.131 or otherwise, or the right to assert co-ownership of any cited reference. Applicant does not admit that any of the cited references or any other references of record are relevant to the present

claims, or that they constitute prior art. To the extent that any rejection or assertion is based upon the Examiner's personal knowledge, rather than any objective evidence of record as manifested by a cited prior art reference, applicant timely objects to such reliance on Official Notice, and reserves all rights to request that the Examiner provide a reference or affidavit in support of such assertion, as required by MPEP § 2144.03. Applicant reserves all rights to pursue any cancelled claims in a subsequent patent application claiming the benefit of priority of the present patent application, and to request rejoinder of any withdrawn claim, as required by MPEP § 821.04.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's representative at (612) 349-9593 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop KCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on August 12, 2009.

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